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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,304	03/30/2004	Masaaki Nakayama	249-336 (AMK)	1823

23117 7590 05/16/2007  
NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER
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AFZALI, SARANG

ART UNIT	PAPER NUMBER
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3726

MAIL DATE	DELIVERY MODE
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05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



**Office Action Summary**

Application No.

10/812,304

Applicant(s)

NAKAYAMA ET AL.

Examiner

Sarang Afzali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 2/27/2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-13, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.



**DETAILED ACTION**

***Response to Amendment***

1. The applicant's amendment filed on 2/27/2007 has been fully considered and made of record.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10, 12, and 13 are rejected under 35 U.S.C. 102(e) as anticipated by Kaiser et al. (US20030181302A1) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kaiser et al. in view of AAPA.

Regarding claim 10, Kaiser et al. teach a disc roll comprising: a plurality of annular disc members 29 each defining a hole and having a peripheral surface; and a rotary shaft 17 fitted into the holes of said annular disc members 29 by insertion, whereby the peripheral surfaces of said disc members serve as a conveying surface of the disc roll, wherein said disc members 29 comprise an inorganic fiber, mica and a clay (paragraph [0010], last three lines) having a content of particle components that have a particle size of 5 micrometer or larger of not higher than 30% by weight based on the weight of the clay. The limitation "not higher than 30%" includes any amount less than 30% including 0% (applicant discloses that the instant invention could have no "particle



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components" in page 19, lines 5-7 of applicant's specification). Therefore, Kaiser et al. is considered to meet this limitation.

In the alternative, if applicant believes that Kaiser et al. do not teach clay having no particle components, the examiner considers the Applicant's disclosure (page 1, third paragraph, under Remarks/Arguments field 2/27/2007) as admitted prior art, wherein the Applicant submits that clay naturally contains particle component.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Kaiser et al. with clay having naturally occurring particle components as taught by AAPA, in order to provide a disc roll comprised of desired and suitable material content.

It would further have been obvious to one of ordinary skill in the art to provide a clay with a purity content as claimed (i.e. less than 30% by weight, with particle sizes of at least 5 micrometer), since such a clay material with fine particles would achieve a more uniform packing of clay particles and better interparticle binding resulting in a desired wear/attrition resistance.

Regarding claim 12, the inorganic fiber is present in the claimed range (see paragraph [0056], last three lines).

Regarding claim 13, mica is present in the claimed range (see paragraph [0056], last three lines).

Regarding claim 20, Kaiser et al. teach a disc roll comprised an inorganic fiber, mica and a clay (paragraph [0010], last three lines). Regarding the limitation "clay being subjected to a wet sizing separation purification process", the patentability of product



does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) (citing *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969)). If a product in a product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product is made by a different process. *Id.* citing *In re Marosi*, 710 F.2d 799, 803, 218 USPQ 289, 292-93 (Fed. Cir. 1983); *Johnson & Johnson v. W.L. Gore*, 436 F. Supp. 704, 726, 195 USPQ 487, 506 (D. Del. 1977); see also *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). The disc members of Kaiser et al. comprise an inorganic fiber, mica, and clay.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaiser et al. in view of AAPA, as applied to claim 10 and further in view of Asaumi et al. (US 4,533,581).

Kaiser et al./AAPA teach the invention cited above with the exception of the mica being muscovite.

Asaumi et al. teach that it is known to use muscovite mica in disc rollers (col. 2, lines 17-22).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Kaiser et al./AAPA with muscovite, in light of the teachings of Asaumi et al., in order to provide a disc roll having an excellent heat resistance property as suggested by Asaumi et al.



5. Claim 21 is rejected under 35 U.S.C. 102(e) as anticipated by Kaiser et al. (US20030181302A1) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kaiser et al. in view of AAPA.

Regarding claim 21, Kaiser et al. teach a disc roll comprising: a plurality of annular disc members 29 each defining a hole and having a peripheral surface; and a rotary shaft 17 fitted into the holes of said annular disc members 29 by insertion, whereby the peripheral surfaces of said disc members serve as a conveying surface of the disc roll, wherein said disc members 29 comprise an inorganic fiber, mica and a clay (paragraph [0010], last three lines) having a content of particle components that have a particle size of 5 micrometer or larger of not higher than 30% by weight based on the weight of the clay. The limitation "not higher than 30%" includes any amount less than 30% including 0% (applicant discloses that the instant invention could have no "particle components" in page 19, lines 5-7 of applicant's specification). Therefore, Kaiser et al. is considered to meet this limitation.

In the alternative, if applicant believes that Kaiser et al. do not teach clay having no particle components, the examiner considers the Applicant's disclosure (page 1, third paragraph, under Remarks/Arguments field 2/27/2007) as admitted prior art, wherein the Applicant submits that clay naturally contains particle component.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Kaiser et al. with clay having naturally occurring particle components as taught by AAPA, in order to provide a disc roll comprised of desired and suitable material content.



It would further have been obvious to one of ordinary skill in the art to provide a clay with a purity content as claimed (i.e. less than 30% by weight, with particle sizes of at least 5 micrometer), since such a clay material with fine particles would achieve a more uniform packing of clay particles and better interparticle binding resulting in a desired wear/attrition resistance.

As applied to claim 21, the limitation "clay being subjected to a wet sizing separation purification process", the patentability of product does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) (citing *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969)). If a product in a product-by-process claim is the same as or obvious from a product in the prior art, the claim is unpatentable even though the prior product is made by a different process. *Id.* citing *In re Marosi*, 710 F.2d 799, 803, 218 USPQ 289, 292-93 (Fed. Cir. 1983); *Johnson & Johnson v. W.L. Gore*, 436 F. Supp. 704, 726, 195 USPQ 487, 506 (D. Del. 1977); see also *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). The disc members of Kaiser et al. comprise an inorganic fiber, mica, and clay.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 10-13 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments, see "Remarks/Arguments, filed 2/27/2007, with respect to rejection of claims 10-13 under USC 35, 112, first paragraph and objection to specification have been fully considered and are persuasive. The rejection of claims



10-13 under USC 35, 112, first paragraph and objection to the specification have been withdrawn.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koerner et al. (US 5,521,133) teach making a clay article wherein fine particles (within the Applicant's claimed range) are used in order to provide a more uniform packing of clay particles and better opportunity for interparticle binding (col. 4, lines 40-43).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a



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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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5/8/2007



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

5/14/07